The fascination of fur and feathers: managing human-animal interactions in wildlife tourism settings

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ABSTRACT

Using Fraser Island in Queensland and Penguin Island in Western Australia as study areas, this paper examines changing management policies and practices with regards to human-animal interactions in wildlife tourism settings. In particular, the shifting relationships between people and dingoes, and between people and penguins, are explored in these Australian settings. Data drawn from interviews, observations and management policies show that as perceptions of wildlife change, management of human-wildlife interactions must also change.

Key words: *Canis lupus dingo,* Dingoes, *Eudyptula minor,* Penguins, Wildlife Tourism, Wildlife Management, Human-Animal Interactions, Fraser Island, Penguin Island.

Introduction

Interactions between people and non-human animals in non-captive Australian wildlife tourism settings are often managed by government organisations. Organisations, such as Conservation and Land Management (CALM)[1] in Western Australia and Queensland Parks and Wildlife Service (QPWS) in Queensland, increasingly find that their policies and practices for natural settings, such as national parks, need to be inclusive of management for both people and animals, and for the interactions between them. Frameworks for sustainably managing natural assets used by tourists (for example, Hughey *et al.* 2004) often ignore people's changing perceptions of wildlife. The examples used in this paper, of Penguin Island in Western Australia and Fraser Island in Queensland, offer significant insight into management issues pertaining to human-animal interactions. On Penguin Island this significance is due to the driving force of conservation, and on Fraser Island the need to limit dangerous encounters with wildlife for tourists. The paper begins with a description of the focal wildlife and people, before discussing human-wildlife interactions and management issues in each of the study areas. A final comparison explores the changing relationship between people and penguins, *Eudyptula minor*, and people and dingoes, *Canis lupus dingo*, illustrating that as perceptions of wildlife change, management of interactions must also change.

Methods

The data for this paper were collected from the two study areas between 2001 and 2004. During ethnographic fieldwork at these locations, data were collected via 55 in-depth, open-ended, interviews with a wide range of stakeholders; including managers, tourists, residents, tour operators, resort staff and guests, indigenous people, and members of non-government organisations. Respondents were encouraged to talk about their experiences and perceptions of the study area and the wildlife, as well as their role in wildlife tourism. Data were extracted and coded from the transcripts using a thematic analysis. The findings were then triangulated with data collected via participant observation and from documentary sources, and deconstructed using discourse analysis. Due to the nature of this investigation, literature-based research focussed on relevant government policy documents as well as newspaper articles and interpretive material distributed to tourists and other stakeholders at each study area.

Study Areas

Penguin Island and Fraser Island both lie off the Australian coast and are home to wildlife that attracts tourists. They both have a long history of human visitations, with human-wildlife interactions gaining increasing importance. In each location, people and animals interact in various ways. The key wildlife species discussed in this paper are penguins on Penguin Island, and dingoes on Fraser Island. For the purposes of this discussion the people are divided into two main groups of (1) managers, and (2) tourists and other stakeholders.

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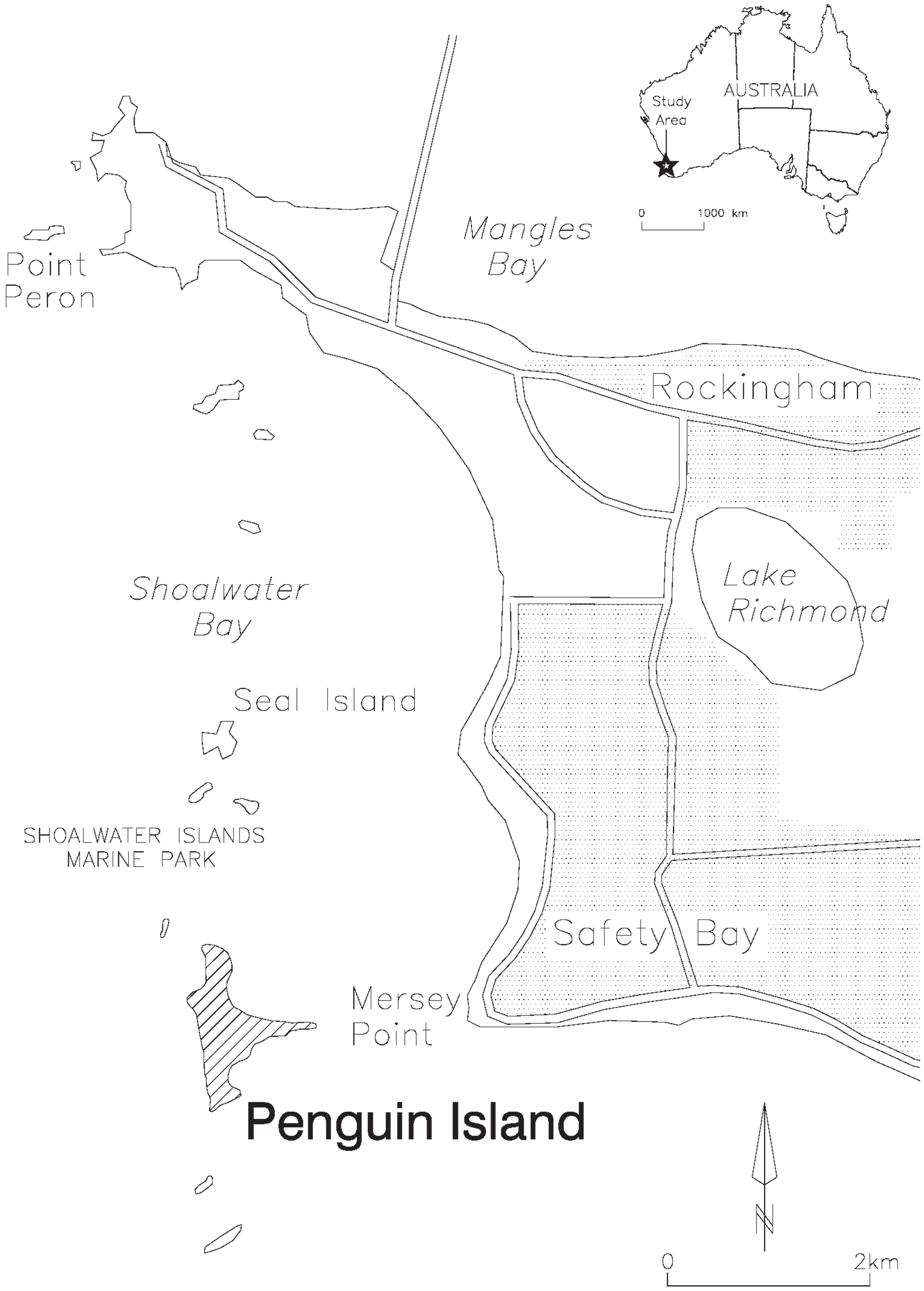
[1] The Department of Conservation and Land Management (CALM) in Western Australia changed its name to the Department of Environment and Conservation (DEC) in July 2006.

Both Penguin Island and Fraser Island are managed by state government organisations. They are also both popular tourist destinations and of recreational and, in the case of Fraser Island, residential, interest to stakeholders. The penguins found on Penguin Island and the dingoes found on Fraser Island share some commonalities that influence the way they are managed, but they also have some very obvious differences. Perhaps most notably, two human fatalities are recorded from dingo attacks since Europeans have been on the Australian continent.[2] Increased attention has been paid to the management of both species and their interactions with people in recent years. Problems associated with these interactions often arise owing to competition over habitat, which Herda-Rapp and Goedeke (2005:1) note is a core issue in conflict between wildlife and people.


Study Area
AUSTRALIA
0 1000 km
Mangles Bay
Point Peron
Rockingham
Lake Richmond
Shoalwater Bay
Seal Island
SHOALWATER ISLANDS MARINE PARK
Safety Bay
Mersey Point
Penguin Island
N
0 2km

Map 1. Location of Penguin Island in the Shoalwater Islands Marine Park.

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[2] The two deaths referred to are those of a baby at Uluru in the Northern Territory in 1980, and a nine year old boy on Fraser Island in Queensland in 2001.

Penguin Island

Location

Penguin Island lies 700m offshore from Mersey Point in Safety Bay near Rockingham in Western Australia. At 32°17'S, 115°41'E it is 42km south-west of the state capital, Perth, and has a Mediterranean climate. The 12.5 hectare island is the largest in a chain of limestone rocks and small islands and is linked to the mainland by a sandbar. Penguin Island lies within the Shoalwater Islands Marine Park and is designated an A-Class reserve vested in the National Parks and Nature Conservation Authority (Orr and Pobar 1992).[3]

Wildlife

Figure 1. *Eudyptula minor,* the Little Penguin, on Penguin Island. Photo: G L Burns.

Eudyptula minor, commonly known as Little Penguins or Fairy Penguins, breed along the Australian coast from Port Stephens in northern NSW to Fremantle in WA (Stahel and Gales 1987), and on islands off the southern Australian coast (Reilly and Bamford 1975). Penguin Island marks the northern and western limits of the Little Penguin breeding range (Wienecke, Wooller and Klomp 1995:440). This rather isolated colony of approximately 1000-1200 individuals has maintained a long established population on the island where up to 650 pairs breed annually (Dunlop, Klomp and Wooller 1988:95).[4]

Although the Little Penguin is not listed as an endangered species, some studies suggest it is under threat and populations around Australia are declining (Boersma 1991; Dann 1992). The threat is greatest where the colonies are situated close to expanding urban developments (Wienecke, Wooller and Klomp 1995:441) as is the case for the Penguin Island colony.

People

Managers

Penguin Island was managed by the Rockingham Road Board in the early 1900s before becoming the responsibility of the State Gardens Board in 1949, who leased it to a private company for holiday huts in the 1950s. Between 1969 and 1987 Penguin Island Proprietary Limited leased 8 hectares of the island (almost 3/4 of it) for an annual fee of $4 (Wienecke, Wooller and Klomp 1995:443-4).

A first draft management plan for the island, in 1984, emphasised a need to control public access, and to restore and protect wildlife habitat. It suggested implementing a comprehensive public awareness programme and encouraging research on the island (Chape 1984). When the lease to Penguin Island Pty Ltd terminated and the Department of Conservation and Land Management (CALM) took over in 1987 some recommendations in the draft management plan, such as the construction of designated pathways, had already been implemented (Wienecke, Wooller and Klomp 1995:444). A new management plan was drawn up in July 1992. It recommended that past use of the island was inappropriate, and that Penguin Island should become a conservation park (Orr and Pobar 1992).

Tourists and other stakeholders

With no direct supply of fresh water, and located only 700m off the shore of the mainland, no one resides on Penguin Island. Given its access by sandbar from the mainland it is reasonable to assume that the island was used by Aboriginal people, although no evidence has been found to indicate long term habitation. The earliest recorded human resident was Seaforth McKenzie, a hermit who settled on the island at the turn of the century (Wienecke, Wooller and Klomp 1995:443). Evidence of his habitation remains visible in the form of caves and a well.

On the nearby mainland are approximately 80 000 residents in the rapidly expanding city of Rockingham (Rockingham City Council 1999). Other stakeholders who have a vested interest in the island are volunteers working for CALM on the island. A group referring to themselves as the 'Friends of Shoalwater Bay' also need introducing here as they were instrumental in lobbying to set Penguin Island up as a protected area in the late 1980s and early 1990s.

It is difficult to determine the exact number of tourists to Penguin Island annually. Those who travel by ferry appear to make up the largest percentage and can be counted as tickets are issued for their travel, so too can those who are part of a tour (for example, the island is a destination for several kayaking tour companies). People who arrive by walking across the sandbar, or by private vessel, are not counted. For the 1998/1999 financial year total visitation numbers were estimated to be 55 000 (40 000 of those by ferry). For 2000/2001 the total number was approximately 70 000, and it is expected that most of these live close enough to make the island an easy day trip.[5]

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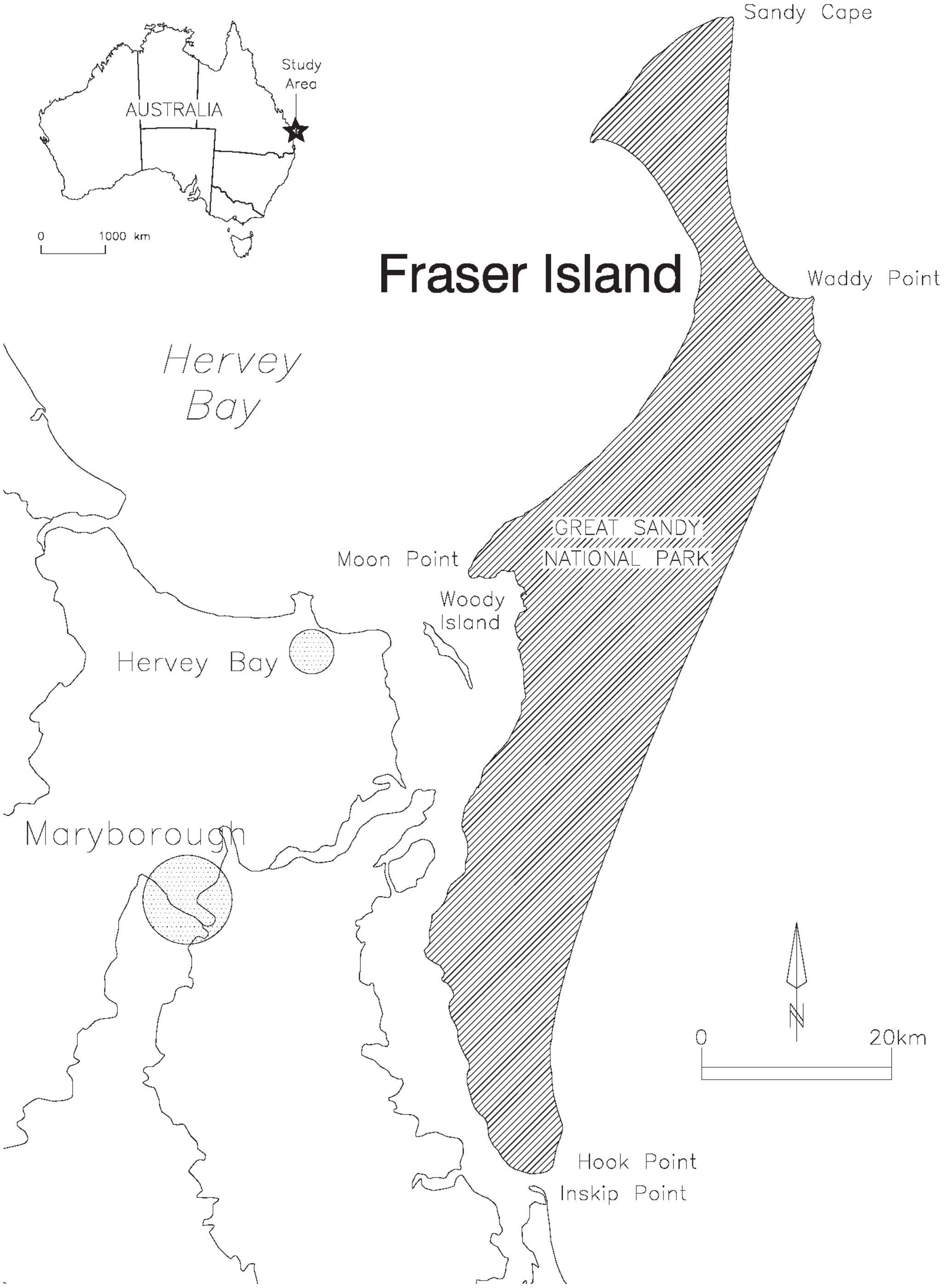
[3] In this category of protected area, conservation is considered the highest priority for management owing to the presence of a fragile or unique ecosystem (Dans 1997).

[4] The Little Penguin colony on Penguin Island is the largest in Western Australia (Wienecke, Wooller and Klomp 1995:441); however, it is still relatively small by national standards. The colony on Phillip Island, Victoria, for example, numbers approximately 20 000 birds (Marchant and Higgins 1990).

Fraser Island

Location

Fraser Island, located off the Queensland coast approximately 190km north of Brisbane, is the world's largest sand island. It is almost 125km long, 25km wide in some places, and over 160,000 hectares in area. Fraser Island has a subtropical climate and features a wide range of vegetation types and interesting geographical features


Sandy Cape
Study Area
AUSTRALIA
0
1000 km
Fraser Island
Waddy Point
Hervey Bay
GREAT SANDY NATIONAL PARK
Moon Point
Woody Island
Hervey Bay
Maryborough
N
0
20km
Hook Point
Inskip Point

Map 2. Location of Fraser Island in the Great Sandy National Park.

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[5] In a survey of 107 visitors to Penguin Island in 2001, Hughes and Morrison-Saunders (2005) found that most respondents (76%) were Western Australian residents. This correlates with Dans' (1997) observation that the island is a major local recreational venue.

such as freshwater perched lakes and large sandblows.[6] The island is a designated World Heritage Area, and forms part of the Great Sandy National Park (EPA 2005a:119).

Wildlife

Figure 2. *Canis lupus dingo,* the Australian Dingo, on Fraser Island. Photo: G L Burns.

Canis lupus dingo, commonly known as Dingoes or Australian Dingoes, are thought to have been introduced to Australia by Indonesian traders some 4000 years ago, and have since developed characteristics that isolate them from their ancestors in Asia (Corbett 1995). The dingo population on Fraser Island, which is thought to maintain itself at approximately 150 (though the exact number is debatable), most likely came to the island with Aboriginal people (Rogers and Kaplan 2003:170), and is often argued to be amongst the most 'pure' in Australia.[7] This is acknowledged in the *Fraser Island Dingo Management Strategy* (EPA 2001b:4) which states that:

"Wildlife authorities recognise that because Fraser Island dingoes have not cross-bred with domestic or feral dogs to the same extent as most mainland populations, in time they may become the purest strain of dingo on the eastern Australian seaboard and perhaps Australia wide. Therefore, their conservation is of national significance."

Dingoes have an interesting, and tenuous, position in national legislation. They are protected in national parks, such as Kosciusko and on Fraser Island, yet considered a pest in much of mainland Australia where they prey on pastoral livestock such as lambs and calves (Rogers and Kaplan 2003:38; Dickman and Lunney 2001).

People

Managers

Fraser Island became a destination for sand mining in the 1960s whilst under the management of the Queensland Forestry Department (Sinclair and Corris 1994). The island also has a long history of use for logging as well as cattle grazing (Dargavel 1995, Baker 1996:38). The Queensland Parks and Wildlife Service (QPWS), a division of the Queensland Environmental Protection Agency (EPA), took over as the governing body from the Forestry Department in 1991, and the island was declared a World Heritage Area in 1992 following development opposition by environmental groups (Sinclair and Corris 1994, Bonyhady 1993) and subsequent recommendations of the Fitzgerald Commission of Inquiry (Queensland Government 1991).

The island forms part of the Great Sandy National Park (see Map Two), and contains small areas of freehold and unallocated state land (EPA 2005a: 120) upon which resorts and residences have been built. These are governed by either the mainland-based Harvey Bay or Maryborough City Councils, depending on their locations on the island.

Tourists and other stakeholders

Fraser Island is home to approximately 200 residents most of whom have lived there for many years. Some of these are members of the Fraser Island Association (FIA). The Fraser Island Defenders Organisation (FIDO) is a group made-up primarily of non-residents, which has been instrumental in the campaign for conservation issues on Fraser Island. Prior to European contact, three Aboriginal tribes used the island. Other stakeholders with a vested interest in the island are the residents of the nearby towns of Hervey Bay and Maryborough (see Map Two).

The number of visitors to Fraser Island has grown significantly since its declaration as a World Heritage Area in 1992, with current visitor numbers of approximately 300 000 *per annum* (EPA 2005b:21). Most of these arrive by ferry and stay at resorts or apply to QPWS for camping permits, and are therefore easily recorded. A small number, usually day trippers, also arrive by private vessel.

Valuing Wildlife

People's perceptions of wildlife are likely to be influenced by the values they place on particular species.[8] So too their perceptions, and values, are likely to influence the type of interactions they seek. In a nationwide sample of American preferences for diverse animals, Kellert (1996:101) found that "The most preferred groups were domesticated, aesthetically appealing, and game animals. The least preferred were the biting and stinging invertebrates, aesthetically unattractive species, and animals associated with human injury, disease and property damage" (p102).

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[6] For further information on Fraser Island's geography and ecology see, for example, Carruthers *et al.* (1986), Sinclair (1997), Queensland Government (1991), Bonyhady (1993), Dargavel (1995), EPA (2002), and Hadwen *et al.* (2003).

[7] For further discussion on the indigenousness and purity of dingoes see Chipp (1983), Newsome and Corbett (1982, 1985), Woodall, Pavlov and Tolley (1993), Woodall, Pavlov and Twyford (1996), and Wilton (2001).

[8] For further information on the values associated with wildlife see Burns (2004), Decker and Goff (1987), Decker, Brown and Siemer (2001), Kellert (1996), and Schaenzel (1998).

Penguins clearly fall into Kellert's category of 'most preferred' because of their aesthetic appeal. They are popularly portrayed as a wild animal that is safe, benign, cute, and clumsy (and consequently vulnerable). They feature in anthropomorphic documentaries,[9] and in children's literature and television programmes (generations of Australian children, for example, left chairs in front of the television and went to bed at the nightly bidding of 'Fat Cat' and 'Percy the Penguin').

Dingoes, however, are more ambiguous. Straddling both of the categories described by Kellert, they are 'preferred' because they are similar looking to the domesticated dog. However, dingoes are associated with human injury and death and this puts them firmly in the 'least preferred' category. They are also maligned because, as the largest land-based predatory animal on the Australian continent, they have a history of conflict with pastoralists. This difficulty of classification makes murky the waters of dingo management and of public perceptions of dingoes.

Human-Wildlife Interactions

People can experience interactions with wildlife that can be both positive and negative (Herda-Rapp and Goedeke 2005:1).[10] So, too, wildlife can experience interactions with people that can be both positive and negative.[11] Sometimes these experiences are comparable; such as when a person is injured and the wildlife then culled (Burns and Howard 2003) or when the interactions provide pleasure for people while enhancing conservation for wildlife (Higginbottom and Tribe 2004), and sometimes they are not.

Penguin Island

Penguin Island has a long history as a destination for recreation. Indigenous Australians would have had ongoing contact with the island's wildlife, and organised European visitation began in 1918 when the island was reserved for public use and managed by a trust before being handed over to the Rockingham Road Board (Wienecke, Wooller and Klomp 1995:443). A search light unit was stationed on the island during WW II, and in 1949 Penguin Island became the responsibility of the State Gardens Board who declared its purpose for recreation and camping, and as a possible future resort (p443-4). Part of the island was first leased to a private company for holiday huts in the early 1950s, bringing penguins and people into close and consistent contact.

Penguin Island was proclaimed an A-class reserve in 1957 by the National Parks Board (Wienecke, Wooller and Klomp 1995:444) and visitation to the island continued to grow. During its lease between 1969 and 1987 Penguin Island Propriety Limited established 22 asbestos and cement buildings that were rented to holiday-makers. During this time there were no restrictions on public access to the island (p.444), or to the penguins.

Management strategies aimed at developing the island for public use were very successful in attracting visitor numbers. The asbestos huts were in high demand, especially during summer and school holiday seasons, and booking was required by would-be holiday-makers well in advance. Such intense use, however, destroyed much of the breeding habitat on the island as ever increasing human activity led to destabilisation of sand dunes and severe loss of vegetation (Wienecke, Wooller and Klomp 1995:444). As a consequence of the lack of natural breeding sites, some penguins took up residence under the buildings (Dunlop, Klomp and Wooller 1988:94), bringing them into even closer contact with visitors.

In 1982 the Western Australian National Parks Authority, in consultation with CALM, began to deal with the problems of erosion and unchecked visitor access. Subsequent management by CALM over the last two decades has substantially changed human-animal interactions on the Penguin Island.

Fraser Island

Fraser Island has a long history of human occupation and use, becoming a favoured recreation destination in the past two decades. During its years as a site for extensive sand mining and logging, tourism had commenced on a largely unregulated and small scale. Human-dingo interactions occurred during this time and interviewed representatives from resident and tourism industry groups recalled accounts of befriending dingoes and of dingoes stealing food, such as fishing bait or garbage. These interactions are typically presented as benign, and sometimes even positive, without the same associations of negativity and fear prevalent in more recent years.

Increasing tourist numbers have coincided with an increasing number of interactions between tourists and dingoes. Following several incidents in 1998, a report commissioned by the Queensland state government argued that the issue of dingo management on Fraser Island seriously needed to be addressed (Corbett 1998), and a *Draft Fraser Island Dingo Management Strategy* was developed the following year (EPA 1999). Subsequently, QPWS have targeted human-dingo interactions in their recent management strategies. Following a fatality in April 2001[12] a *Risk Assessment* report was released in May that same year (EPA 2001a) and the final *Fraser Island Dingo Management Strategy* was released in November 2001 (EPA 2001b). These two documents heralded substantial changes for human-animal interactions on the island.

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[9] Such as *The March of the Penguins* (Jacquet 2005) and *The Congress of Penguins* (Schlumpf 1995).

[10] For further discussion on the human dimensions of wildlife interactions see Bulbeck (2005), Decker, Brown and Siemer (2001), and Newsome, Dowling and Moore (2005).

[11] For a discussion on some of the negative effects of wildlife tourism on wildlife see Green and Griese (2004).

[12] Two boys, aged nine and seven, were attacked by two young dingoes near the Waddy Point campsite during the Easter school holidays in 2001. The nine year old died and his younger brother was injured.

Management Issues: Changing perceptions and management adjustments

Penguin Island

Penguin Island was once a holiday destination away from the city; however, this situation has dramatically changed. The industrialisation of the Kwinana/Rockingham area in the 1960s (Kwinana Industries Council 2005:1) brought urbanisation into the region, and over the past 40 years increasing human population has led to urban growth and associated improved infrastructure (Wienecke, Wooller and Klomp 1995:445). In 2000 a freeway extension south of Perth opened linking Rockingham city with the state capital in what can be less than half an hour's drive and allows for a growing number of daily commuters to and from the area.[13] This has placed increasing ecological pressure on Penguin Island directly due to increased visitation and more indirectly due to increased human use of natural resources in the surrounding areas.

CALM has managed the whole of Penguin Island since 1987 and some major changes have been made. When CALM took control the island was severely degraded due to uncontrolled public access and the 22 asbestos cement buildings were no longer suitable for human habitation. CALM's goals were to enhance nature conservation management on the island, to fulfil tourist expectations of a visit to Penguin Island, and to enhance tourists' appreciation and understanding of the natural and cultural values of the island. Achieving this required local community support as well as a considerable input of financial resources (Orr and Pobar 1992).

Following the dismantling of the asbestos cement holiday homes, three buildings were constructed on the island. These include a Research and Management Centre that provides overnight accommodation for rangers, a toilet block, and the Penguin Island Discovery Centre.

The Discovery Centre was constructed to fulfil tourist expectations of seeing penguins on the island. It includes the Penguin Experience, where captive penguins can be viewed and an informative talk heard several times per day. This facility allows tourists to view penguins whilst protecting the wild population, and provides an opportunity to educate tourists, and earns revenue from an entry fee that contributes to maintenance of the island. All penguins kept in the facility have been rescued and rehabilitated by wildlife carers but are unsuitable for return to the wild.[14]

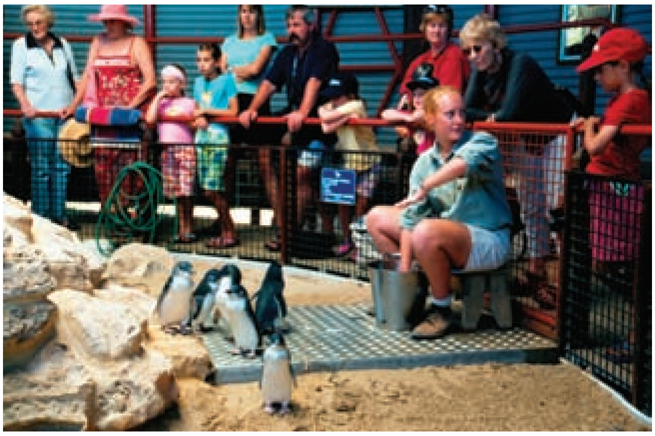

Figure 3. The Penguin Island Discovery Centre.
Photo: G.L. Burns

Penguin Island now offers a very different experience for tourists whilst ensuring habitat survival for penguins. In the 1960s many penguins nested under the floors of houses. During their movement in and out of the water at dawn and dusk they were watched, and often harassed, by tourists. There was no external control over this human-wildlife interaction. Tourists complained about penguins being noisy under the floor boards, and penguin numbers were declining.[15] Now no one, except a ranger, is allowed to stay on the island at night. Camping is not permitted and no housing is provided. The island is only open to tourists during daylight hours and is closed completely over the winter months (June-August). Tourists are requested to keep to designated tracks and boardwalks when traversing the island. Clear signs restrict them from ecologically sensitive areas, such as nesting grounds, and this is monitored by rangers. Both penguin and human numbers on Penguin Island are on the rise.[16]

CALM has put restrictions on tourist access to Penguin Island and on length of visitation; however, it has not decreased the number of tourists. In fact, the numbers seem to be increasing. This is undoubtedly a consequence of the larger number of people living in the vicinity, but is also a result of increased marketing. The variety of marketing initiatives undertaken by CALM in conjunction with the ferry and tour operator include displays at the Mersey Point kiosk and restaurant, where the ferry leaves from the mainland (see Map One). Brochures and fliers are distributed locally and at tourism industry outlets, such as travel agents and hotels, throughout Western Australia and CALM maintains a web page where a virtual tour of the island is available (www.calm.wa.gov.au/tourism/penguin_is_virtual_tour.html).

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[13] See Wienecke, Wooller and Klomp (1995:445) for a table of past and projected population growth.

[14] Some of the penguins have physical injuries that prevent their release, others entered the facility as orphaned chicks and lack the necessary skills to survive without human intervention.

[15] Klomp *et al.* (1991) demonstrated that Little Penguins avoid areas with high levels of human disturbance, and Dunlop, Klomp and Wooller (1988:96) cited human disturbance as the greatest threat to the status of breeding populations on Penguin Island. Klomp and Wooller (1988:633) found that the diet of the Little Penguins on Penguin Island 'appears to be similar to fish species caught locally by commercial fishermen' and thus increased fishing may also contribute to the decline.

[16] On Penguin Island the breeding season starts earlier and ends later (Klomp 1987) than at other Australian Little Penguin colonies (e.g., Phillip Island). As 'numerous ecological factors have the potential to influence breeding seasons' (Knight and Rogers 2004:339), the fact that the season is longer on Penguin Island, sometimes allowing for two clutches of eggs, suggests that the ecological factors are favourable.

Fraser Island

Impetus for management change on Penguin Island seemed to come largely from the Friends of Shoalwater Bay group who saw degradation on the island and were concerned for the penguins and their habitat and therefore lobbied the government. Likewise, Fraser Island has a strong history of community lobbying for conservation measures. People like John Sinclair (Sinclair and Corris 1994), and groups like the Fraser Island Defenders Organisation (FIDO), gained much media attention in the 1970s and 1980s and were successful in stopping logging and mining on Fraser Island. The early 1990s then saw great change as large parts of the island were declared a World Heritage Area and management responsibilities shifted from the Forestry Department to QPWS.

QPWS have many management issues to deal with on this large island that attracts high numbers of both national and international tourists annually. Maintenance of roads, rubbish and sewerage are ongoing issues that many QPWS staff were keen to talk about. In terms of human-wildlife interactions though, dingoes have proved to be a major management headache in recent years.

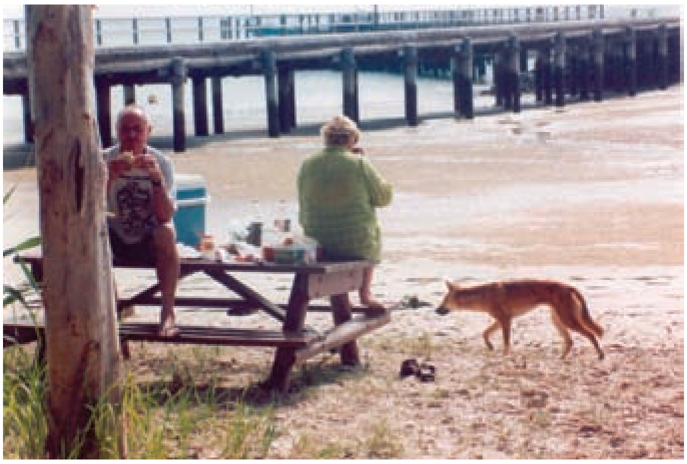

Figure 4. A dingo and picnickers on a Fraser Island beach. Photo: Karen Hytten.

Peace (2001, 2002) explores a romanticised view of the dingo based on representations portraying it as 'pure' and 'wild,' living in a pristine and unspoilt natural habitat (2001: 190). It was this dingo that tourists came to see and that the tourism industry promoted; however, this romanticised view began to change with reports of negative interactions between dingoes and humans on Fraser Island during the late 1990s (2001:183; 2002:19). The relabelling of dingoes as dangerous and aggressive (EPA 2001a:3; EPA2001b: 2-3; Hytten and Burns, in press) culminated with the fatal attack in 2001. QPWS management response to this was necessarily swift and attracted much criticism from animal welfare groups and other concerned stakeholders (see Burns and Howard 2003, Courier Mail 2001:3). 31 dingoes were immediately culled and their ongoing management includes culling of identified problem dingoes (at a rate of about one per month), hazing,[17] fencing, and a people targeted campaign to dissuade feeding: 'Be Dingo Smart', which includes large fines for misdemeanours (Beckmann and Savage 2003).

The fatality forced QPWS into taking a more active role in managing human-wildlife interactions on the island, and not just the interactions between people and dingoes. [18] Dingoes have been removed from areas most frequented by tourists, such as campgrounds and resorts, in a management approach that reduces all interactions, both positive and negative. Consequently, tourists are less likely to come into contact with this form of wildlife .[19] This outcome is not necessarily welcomed by tourists who visit the island with the expectation of seeing dingoes, or by tour operators who have used the dingo image widely as a positive marketing tool.

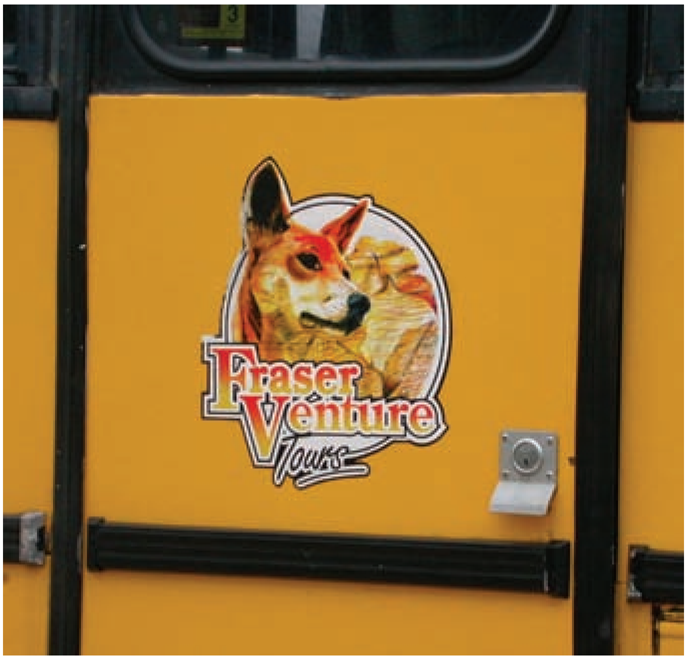

Figure 5 Dingo image as marketing tool on the side of a tour bus. Photo: G L Burns.

These contrasting attitudes toward the dingo parallel findings by Kellert (1996:103-111) examining American attitudes toward the wolf, *Canis lupus*. The wolf once had a bounty on its head (p103), as did the dingo, and in America in the 1800s there was even a “national extermination campaign” (p104) of the wolf. Native Americans viewed the wolf as a creature of power and inspiration, while for the non-natives it was considered an evil presence or vicious competitor (p103) because wolves, like dingoes, prey on livestock. Parallels can also be drawn here with indigenous versus non-indigenous Australian views of the dingo. For indigenous Australians, the dingo was seen as a companion and protector (Meggitt 1965), yet for non-indigenous Australians the dingo was a dangerous sheep killer. No doubt both Americans and Australians inherited this attitude from Europe where wolves had been persecuted for centuries (Kellert 1996:103). However, these attitudes have changed.

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[17] Hazing is defined in the Fraser Island Dingo Management Strategy (EPA 2001b) as "harassing dingoes by way of irritation" (p13) and "non-lethal methods used to deter dingoes from frequenting an area and to reinstall in them a fear of human" (p22). The types of harassment include 'ratshot' fired from rifles and use of stock whips (p13).

[18] For example, a Kookaburra was culled at Central Station (one of the islands' most popular tourist destinations) in September 2001 after it injured the cheek of a male tourist. The man was eating his lunch at the time and the injury occurred because the bird was attempting to take the man's sandwich. Bus loads of tourists arrive daily at Central Station and, as their lunch is spread out on picnic tables or cooked on a barbeque, nearby trees are frequented by birds waiting for a feed. Signs in the area warn visitors also about lizards and dingoes that may scavenge for food.

[19] A further consequence of the fatality has been an increased demand for further research, mainly in the area of dingo biology, as QPWS recognised that more needed to be known (such as exact population numbers and feeding habits) about dingoes on the island.

In America, the wolf has become an icon of wilderness preservation (Kellert 1996:106, Nie 2001). While the dingo has not so far achieved this status it would seem that there is an increasing possibility that it could do so given that there has been much discussion on the topic of dingo conservation in recent years (see, for example, Dickman and Lunney [eds] 2001). To date, QPWS strategies struggle to deal with this attention as they focus on the protection of people over the protection of dingoes (Hytten and Burns, in press). This occurs despite recognition in the management strategy (EPA 2001b: 4) that the conservation of Fraser Island dingoes is of national significance.

Comparing the two study areas

In both cases, tourism use by people competes with habitat use by wildlife and the existence of the wildlife is threatened. Serious attempts at conservation of flora and fauna in both study areas occurred at similar times, although on different scales due to the different sizes of the islands and the different nature of exploitation. CALM began making changes on Penguin Island in the late 1980s. Logging on Fraser Island ceased in the early 1990s and the island was declared a World Heritage Area in 1992, although the environmentally focused ‘fight for Fraser’ had been taken up by community groups since as early as the 1970s (Sinclair and Corris 1994).

There are no permanent residents on Penguin Island and, with the exception of the short-term habitation of the hermit Seaforth McKenzie, it is unlikely that there ever have been. There are, however, residents on Fraser Island, and there have been for as long as Australia is known to have had human habitation. Therefore, restrictions, such as barriers (fences) and strategies aimed at limiting human-wildlife contact are more likely to be a contentious issue for the Fraser Island residents who perceive that they have a right to freely access all of the island that they call home.

The tourist numbers to Penguin Island (70 000) are much smaller than numbers to Fraser Island (300 000). This difference should be viewed in the light of the relative size of the two islands. Penguin Island, at only 12.5 hectares, is 1000 times smaller than 160 000 hectare Fraser Island. Also, Penguin Island is only open to tourists for about 40 weeks per year (September until May), covering the summer months and including major school holidays. Thus, Penguin Island has a greater visitation density, with more people per hectare per week visiting than Fraser Island. Consequently, the impact of visitation is potentially much greater on Penguin Island.

In terms of continuity of the tourism industry, it would take a lot to stop tourism on Fraser Island. The fatality in 2001 had no obvious impact on the annual tourism numbers. In fact, it may even have been of benefit for resorts which, immediately afterwards, recorded higher numbers of occupants due to tourists who had planned to visit the island but were reluctant to camp. Lower tourist numbers on Penguin Island makes the tourism industry more vulnerable at this location. Here penguins are a key attraction, unlike dingoes on Fraser Island. Dingoes could disappear from Fraser Island but the tourists would not. Tourists are attracted to Fraser Island for many reasons, however, most interviewed expressed they would be disappointed if they were no longer able to see dingoes as part of their Fraser Island experience. Penguins are not the only reason for tourism on Penguin Island either. It is a destination for swimming, snorkelling and diving, canoeing, and viewing other wildlife (such as Pelicans and Terns); however, penguins are advertised as the main feature, as evidenced in the island’s name, and are what many tourists say attracts them to the area. Consequently, it is reasonable to assume that disappearance of the penguins would have a big impact on the success of Penguin Island tourism.

Relationships between managers, tourists, and other stakeholders seem mostly harmonious on Penguin Island. Volunteers working on the island enjoy the job they are doing and speak highly of CALM’s management. The only dissent I observed was evident in graffiti painted at the entrance to the mainland jetty which read ‘locals only.’ Although tourists have lost some of the freedom they had on the island in the 1960s and 1970s, most of those interviewed were very happy with their Penguin Island tourism experience.

Relationships between the managers, tourists, and other stakeholders are not always harmonious on Fraser Island. Tourists often think they should have the freedom to do whatever they like on the island, and in some cases residents actively work against the managers. In interviews, a common discourse amongst residents included the belief that QPWS staff do not know what they are doing and do not look after the island as well as they should. Many residents said they were happier when the island was managed by the Forestry Department in the 1980s. In general, residents did not support the push for World Heritage listing of Fraser Island; instead, the impetus for this came from interested others living off the island. Thus, current discontent with management of dingoes and human-dingo interactions can be understood as a reflection of some long-standing social issues.[20]

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[20] Wilson (1997), examining conflict surrounding the reintroduction of wolves into Yellowstone National Park, similarly found that it could not be divorced from underlying social issues.

Summary

Large changes in human-wildlife interactions have occurred on these two Australian islands. In both locations contact between humans and wildlife have been forcibly limited by management bodies. On Fraser Island this occurred largely because of the perceived threat to people, while on Penguin Island it occurred because of the perceived threat to penguins. Management response on Fraser Island was to limit all contact, through a variety of means, including culling dingoes. On Penguin Island the response was to limit unregulated and uncontrolled contact. The Penguin Island Discovery Centre offers a venue in which tourists can safely view captive penguins whilst being educated about the wild penguin population on the island. Penguins can still be viewed in the wild, and, if asked, CALM volunteers working on the island advise tourists of the best penguin viewing places. Thus, people visiting Fraser Island are now less likely to see dingoes, but tourists to Penguin Island are more likely to see penguins.

Obviously these two management approaches are location and species specific. Because penguins fall firmly into Kellert's (1996) category of 'most preferred' wildlife, there is public pressure for management policies and practices to be sympathetic to their conservation. A management strategy that advocates, and carries out, the culling of dingoes is viable because of the dingoes' 'least preferred' status. This does not mean, however, that the culling has avoided public criticism (see, for example, Smith 2001, Sun Herald 2001, and The Australian 2001). The dingoes' public image remains controversial (Breckwoldt 2001:5) as their conservation status and their purity status remains contentious (Corbett 2001). Building an enclosure for tourists to safely view captive dingoes on Fraser Island was explored, but rejected (EPA 2001b). Dingoes, like penguins, can readily be seen in zoos and other wildlife parks in Australia, and to build such a facility on Fraser Island would be a large burden on QPWS, which is already struggling with limited financial resources to deal with the many other complex management issues on this large island. A fenced area for captive dingoes may also seem too much like a zoo and therefore not fit with tourists' expectations for an authentic Fraser Island wildlife experience.[21]

Limiting tourist numbers as a way of minimising human-wildlife interactions has been discussed but rejected as a management tool on Fraser Island (EPA 2001b). Not surprisingly, a cap on numbers is not supported by the many tourism operators on Fraser Island. Nor is it welcomed by the many island residents who rely to some extent on the tourism industry for their income. However, this strategy works well on Penguin Island where tourists are restricted to the time of day and time of year they can access the island via ferry.

Protecting penguins, and overseeing tourist interactions with the birds, have been major management issues for CALM since they took over control of Penguin Island. However, owing to a lack of residents, CALM interactions with other stakeholders have been limited to volunteers and the now defunct 'Friends of Shoalwater Bay' group. Dingoes on the other hand have not always been the main management issue for QPWS on Fraser Island. Other issues, such as waste removal and sewerage treatment, dominate management concern on the large and extremely popular Fraser Island. Increasing concern over human-wildlife interactions, however, has forced QPWS into greater contact with other stakeholders, particularly residents and tourists. This relationship is not always harmonious. In some cases, residents actively work against QPWS management. For example, some keep domestic pets, which is inconsistent with the island's status as a national park and a World Heritage Area. Some even persist in making pets of dingoes, refusing to cooperate with QPWS requests to avoid habituating the dingoes to human contact. However, this animosity has a history, as discussed, and has not just arisen as a result of recent management changes.

Some approaches by CALM and QPWS to managing human-wildlife interactions have been very similar, yet some are very different. Each has merit in its own location, however, those undertaken on Fraser Island have aroused more public interest and been more contentious. While this is undoubtedly a consequence of the more invasive nature of the management regime, it is perhaps also linked to the fact that Fraser Island is a source of interest and concern to a greater number, and a wider range, of stakeholders. With these come a diversity of values associated with wildlife interaction and management.

Ultimately, this research has shown that government organisations, such as QPWS and CALM, need to be responsive to the needs and expectations of people as well as the needs of wildlife in their management of natural settings. It also shows how human expectations of wildlife management shift with changing public perceptions of the values and threats associated with wildlife species themselves.

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[21] Bulbeck (2005:79) defines a site as 'authentic' if it is one where the humans go to the animals at a location where the animals gather and live their lives.

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